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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/769,385	01/30/2004	Tienteh Chen	200312792-1	8388

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EXAMINER	
TSOY, ELENA	
ART UNIT	**PAPER NUMBER**
1762	

DATE MAILED: 06/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/769,385	CHEN ET AL.	
	Examiner	Art Unit	
	Elena Tsoy	1762	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 May 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-37* is/are pending in the application.

4a) Of the above claim(s) *23-37* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Request for Reconsideration

Request for Reconsideration filed on 5/22/2006 has been entered. Claims 1-37 are pending in the application. Claims 23-37 are withdrawn from consideration as directed to a non-elected invention.

Double Patenting

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., In re Berg, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); In re Goodman, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); In re Longi, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); In re Van Ornum, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); In re Vogel, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and In re Thorington, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Provisional rejection of claims 1-13, 15-22 on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-6, 8, 15-22 of copending Application No. 11/257,960 has been withdrawn due to timely filed terminal disclaimer.

3. Provisional rejection of claim 14 on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims of copending Application No. 11/257,960 in view of Alexander et al (US 3,007,878) has been withdrawn due to timely filed terminal disclaimer.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1-22 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Hirose et al (US 6,203,899) in view of Abe et al (US 5,372,884) and Alexander et al (US 3,007,878), further in view of Santo et al (US 5,965,252) for the reasons of record set forth in paragraph 6 of the Office Action mailed on 2/06/2006.

Response to Arguments

6. Applicants' arguments filed February 6, 2006 have been fully considered but they are not persuasive.

(A) Applicants argue that a prima facie case of obviousness with respect to pending claims has not been met. Specifically, the references do not provide sufficient teachings or motivation to be modified or combined in order to arrive at Applicant's invention; and the combination of references is based on hindsight. Hirose teaches the treatment of silica with metal oxide or organic groups for use in a printing medium. Hirose does not teach a sequence of steps that includes cationizing the silica and modifying the cationized silica with an organosilane reagent as required by independent claims 1 and 15. Abe also teaches the use of cation-modified silica in ink-jet sheets by specifically referring to Alexander for the method of cationizing the silica. Alexander was filed in 1956 and outlines a basic reaction scheme for cationizing silica in an aqueous solution. However, neither Abe nor Alexander teaches the steps of cationizing silica and also modifying the cationized silica with an organosilane reagent as required by the present invention. Further, Santo uses aluminum hydrate dispersion instead of a silica dispersion as required by the present method. None of the references cited by the Examiner teach the steps of cationizing the surface of the silica and modifying the silica with an organosilane reagent.

The Examiner disagrees. Hirose teaches that silica for the use in an **ink receiving layer** (See column 3, lines 4-13) can be **cationized** by treating silica with a compound containing some of the cationic metal oxides or metal atoms such as alumina and alumina hydrate such as gibbsite, bayerite, nordostrandite, crystalline boehmite, diaspore and pseudoboehmite (claimed surface activating agent) (See column 3, lines 62-67; column 4, lines 3-15) or by treating silica with an organic compound having both amino group or quaternary ammonium group thereof and functional group having reactivity to a silanol group on the surface of silica, such as aminoethoxysilane (See column 4, lines 19-26) by **dispersing silica in water** and contacting it with the silane (See column 15, lines 23-28). Abe et al teach that a **cation-modification** of colloidal silica for the use in **an ink receiving layer** (See column 2, lines 28-34) by coating with a hydrous metal oxide such as hydrous aluminum oxide, hydrous zirconium oxide, hydrous tin oxide or the like can be carried out by the method described in US 3,007,878 to Alexander et al (See column 2, lines 41-58), e.g. by mixing aquasol of colloidal silica (**dispersion of silica in water**) with an aqueous solution of basic aluminum chloride (See Alexander et al, column 4, lines 9-10; column 7, lines 56-57). One of ordinary skill in the art would have *motivation and reasonable expectation of success* to cationize silica with cationic alumina or alumina hydrate in Hirose by mixing aquasol of colloidal silica with an aqueous solution of basic aluminum chloride. Clearly, **mixing** can be done by adding the aqueous solution of basic aluminum chloride to the **dispersion of silica in water**, which dispersion is made by **claimed step of dispersing silica in water**.

Hirose et al in view of Abe et al and Alexander et al fail to teach that silica particles are coated with both alumina or alumina hydrate and with the organic compound

Santo et al teach that an alumina hydrate surface-treated in an aqueous dispersion (See column 7, lines 52-56) with a silane coupling agent (See column 3, lines 39-44) such as gamma-aminopropyltriethoxysilane (See column 5, line 2) when used in an ink-receiving layer composition provides image formed on the ink-receiving layer with no change in tint and good color reproducibility (See column 2, lines 56-67). One of ordinary skill in the art would have *motivation and reasonable expectation of success* to have treated a coated silica in Hirose et al in view of Abe et al and Alexander et al with an organosilane reagent with the expectation of providing image formed on an ink-receiving layer with no change in tint and good color

reproducibility since the coated silica in Hirose et al in view of Abe et al has and Alexander et al has the same **alumina hydrate** surface as in Santo et al, and Santo et al teach that surface-treatment of alumina hydrate in an aqueous dispersion with a silane coupling agent such as gamma-aminopropyltriethoxysilane when used in an ink-receiving layer composition provides image formed on **the ink-receiving layer** with no change in tint and good color reproducibility.

Therefore, the references cited by the Examiner teach the steps of cationizing the surface of the silica and modifying the silica with an organosilane reagent, and a prima facie case of obviousness with respect to pending claims has been met.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elena Tsoy whose telephone number is 571-272-1429. The examiner can normally be reached on Monday-Thursday, 9:00AM - 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on 571-272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Elena Tsoy
Primary Examiner
Art Unit 1762

ELENA TSOY
PRIMARY EXAMINER

June 20, 2006